

## CLAIMS

### **What is claimed is:**

1. A method in a data processing system for managing versions of source code with a version control system, the method comprising the steps of:

5 generating a language-neutral representation of the source code;  
displaying a diagram representing the source code using the language-neutral representation such that the source code and the diagram are synchronized, the diagram having elements, each element having an associated file containing a portion of the source code;

10 receiving an indication of a selected one of the elements;  
determining which file is associated with the selected element;  
receiving an indication of a selection of a command performable by the version control system; and

15 invoking the version control system to perform the selected command on the determined file.

15 2. The method of claim 1, wherein the step of receiving an indication of a selection of an element includes the step of receiving an indication of a right-click of a mouse.

20 3. The method of claim 1, wherein the displaying step includes displaying a class diagram.

4. The method of claim 1, wherein the displaying step includes displaying a use case diagram.

25 5. The method of claim 1, wherein the displaying step includes displaying a sequence diagram.

6. The method of claim 1, wherein the displaying step includes displaying a collaboration diagram.

30 7. The method of claim 1, wherein the displaying step includes displaying a state transition diagram.

8. The method of claim 1, wherein the displaying step includes displaying an activity diagram.

9. The method of claim 1, wherein the displaying step includes displaying a package diagram.

10. The method of claim 1, wherein the displaying step includes displaying a component diagram.

10 11. The method of claim 1, wherein the displaying step includes displaying a deployment diagram.

12. The method of claim 1, wherein the step of invoking includes invoking the version control system to obtain a copy of the determined file from a central repository.

15 13. The method of claim 12, wherein the step of invoking includes storing the copy of the determined file in a working directory.

20 14. The method of claim 13, wherein the step of storing includes restricting access of the copy to be read only.

25 15. The method of claim 1, wherein the step of invoking includes invoking the version control system to acquire a copy of a version of a selected file from a central repository, to place the copy of the file in a working directory on a requesting computer, and to prevent others from checking out the file.

16. The method of claim 15, wherein the version acquired by the version control system is a most current version.

30 17. The method of claim 1, wherein the step of invoking includes invoking the version control system to transfer a copy of a selected file from a working directory on a requesting computer to a central repository.

18. The method of claim 1, wherein the step of invoking includes invoking the version control system to synchronize a working copy of a selected file with a most current version of the file in a central repository.

5 19. The method of claim 1, wherein the step of invoking includes invoking the version control system to commit changes made to a working copy of a selected file to a corresponding file on a central repository.

10 20. A data processing system for managing files in a software project with a version control system, comprising:

means for generating a language-neutral representation of the source code;

15 means for displaying a diagram representing the source code using the language-neutral representation such that the source code and the diagram are synchronized, the diagram having elements, each element having an associated file;

means for receiving an indication of a selected one of the elements;

means for determining which file is associated with the selected element;

20 means for receiving an indication of a selection of a command performable by the version control system; and

means for invoking the version control system to perform the selected command on the determined file.

25 21. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the method comprising the steps of:

receiving an indication of a selection of an element of a diagram having corresponding source code;

30 receiving an indication of a version control command to be performed on the corresponding source code; and

responsive to the receipt of the indication of the selected element and the receipt of the indication of the version control command, performing the version control command on the corresponding source code by a version control system.

22. The computer-readable medium of claim 21, wherein the diagram is a class diagram.

23. The computer-readable medium of claim 21, wherein the diagram is a use case diagram.

24. The computer-readable medium of claim 21, wherein the diagram is a sequence diagram.

10 25. The computer-readable medium of claim 21, wherein the diagram is a collaboration diagram.

15 26. The computer-readable medium of claim 21, wherein the diagram is a state transition diagram.

20 27. The computer-readable medium of claim 21, wherein the diagram is an activity diagram.

25 28. The computer-readable medium of claim 21, wherein the diagram is a package diagram.

30 29. The computer-readable medium of claim 21, wherein the diagram is a component diagram.

35 30. The computer-readable medium of claim 21, wherein the diagram is a deployment diagram.

30 31. The method of claim 21, wherein the step of invoking includes invoking the version control system to obtain a copy of the determined file from a central repository.

35 32. The method of claim 31, wherein the step of invoking includes storing the copy of the determined file in a working directory.

35 33. The method of claim 31, wherein the step of storing includes restricting access of the copy to be read only.

34. The computer-readable medium of claim 21, wherein the version control command comprises acquiring a copy of a most current version of a selected file from a central repository, placing the copy of the file in a working directory on a requesting computer, and preventing others from checking out the file.

35. The computer-readable medium of claim 21, wherein the version control command comprises transferring a copy of a selected file from a working directory on a requesting computer to a central repository.

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36. The computer-readable medium of claim 21, wherein the version control command comprises synchronizing a working copy of a selected file with a most current version of the file in a central repository.

With the exception of the first two, the remaining 1000 species are not included in the present study.

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37. The computer-readable medium of claim 21, wherein the version control command comprises committing changes made to a working copy of a selected file to a corresponding file on a central repository.

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38. A data processing system for managing files in a software project with a version control system, comprising:

a secondary storage device containing the software project, the software project comprising source code;

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a memory containing a software development tool that displays a diagram with diagram elements corresponding to the software project, that receives an indication of a selection of one of the diagram elements that corresponds to a portion of the software project, that receives a selection of a command performable by the version control system, and that invokes the version control system to perform the selected command on the portion of the software project; and  
a processor for running the software development tool.

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39. A method in a data processing system, the method comprising the steps of:  
receiving an indication of a selection of an element of a diagram having corresponding  
source code;  
receiving an indication of a version control command to be performed on the  
corresponding source code; and

responsive to the receipt of the indication of the selected element and the receipt of the indication of the version control command, performing the version control command on the corresponding source code by a version control system.

5           40.     A data processing system for managing files in a software project with a version control system, comprising:

          a first computer including a memory containing a software development tool, which displays a diagram with diagram elements, and a client component of the version control system; a secondary storage containing a working directory; and a processor for running the software  
10        development tool;

          a second computer including a memory containing a software development tool and a server component of the version control system, a secondary storage containing a central repository, and a processor for running the software development tool; and

          a network connecting the first and second computer;

15           wherein the software development tool on the first computer receives an indication of a selection of one of the diagram elements that corresponds to a portion of the software project, receives an indication of a command performable by the version control system, and invokes the version control system to perform the selected command on the portion of the software project.